

MINUTES

MEETING DATE: May 15, 2018

TIME: 9:00AM – 11:00PM

LOCATION: Maryland Department of Commerce

World Trade Center, 401 East Pratt Street

Baltimore, MD 21202

Welcome

Attendees were welcomed by Jay Perman, Chairman of Maryland Life Sciences Advisory Board (LSAB) and the President of the University of Maryland, Baltimore (UMB).

Call to Order

Chair Perman introduced himself and welcomed everyone to introduce themselves. Following Deputy Secretary Wu's comments on behalf of the Governor, all LSAB members introduced themselves. Dr. Perman asked for a review and acceptance of the December 19, 2017 meeting minutes. The meeting minutes were approved.

Progress Since December 2017 - Update

it - Update and Next Steps

Bret Schreiber provided an update on the 2018 Maryland Technology Transfer Summit: The BHLS office in partnership with NIST organized a successful Maryland Technology Transfer Summit. The main purpose was to seek opportunities to enhance Technology Transfer from our Federal and University Labs while also seeking to enhance awareness of commercialization opportunities and the tremendous momentum already occurring at our Federal and University Labs. Nearly 300 individuals attended the Summit from across the country. The Summit lead to the formation of the Maryland Commercialization Council, whose priorities are the development of a foundational document to highlight a patDr. Perman asked

Bret Schreiber to present progress toward implementing the LSAB recommendations since the December 2017 LSAB meeting. Year to date, the LSAB working groups, collectively, met fifteen times. Progress of the LSAB working groups will be reported later in the agenda. The Office of BioHealth and Life Sciences (BHLS) on behalf of the LSAB was also busy in preparation for the Bio 2018 International Convention in Boston to take place the first week of June 2018. BHLS led successful efforts to continue our primary goal of seeking to successfully help with the expansion, recruitment and retention of companies in the life sciences sector with a direct goal of creating jobs, economic growth, opportunity and vitality. To that end, following are the top growth accomplishments in FY 2018:

Paragon BioServices: 200 New Jobs

➤ Supernus Pharmaceuticals: 160 New/156 Retained Jobs

➤ GSK Rockville Biomanufacturing: 120 New Jobs

➤ Viela Bio: 100 New Jobs

MacroGenics: 98 New Jobs

Intralytix: 30 New Jobs

NIST Presentation - "Unleashing American Innovation"

Following Bret Schreiber's updates, Phil Singerman, NIST, Associate Director for Innovation and Industry Services provided an update on the "Unleashing American Innovation," initiative, the purpose of which is to advance the President's Management Agenda to modernize government for the 21st century and its Lab-to-Market CAP Goal. NIST has launched an ambitious initiative in coordination with the White House Office of Science and Technology Policy to enable greater "Return on Investment" (ROI) from the Federal government's \$150 billion annual R&D investment in its federal labs. The Lab-to-Market is a cross-agency priority (CAP) goal of the recently released President's Management Agenda to modernize government for the 21st century to significantly improve Transfer of Federally-Funded Technologies from Lab-to-Market.

The Lab-to-Market CAP Goal is co-led by the Department of Commerce via NIST and the White House Office of Science & Technology Policy (OSTP). NIST, in coordination with White House's OSTP, will advance the President's Management Agenda and its Lab-to-Market CAP Goal through the ROI Initiative. The National Science and Technology Council Lab-to-Market Subcommittee will coordinate, review, and implement interagency priorities for this CAP Goal. The goal is to maximize the transfer of federal investments in science and technology into value for America; to meet current and future economic and national security needs in a rapidly shifting technology marketplace and enhance U.S. competitiveness globally. Additionally, NIST will seek to attract greater private sector investment to create innovative products, processes, services, as well as new businesses and industries.

NIST will help to assess, streamline, and accelerate the transfer of technology from Lab-to-Market; specifically to;

- Identify critically needed improvements to Federal technology transfer policies, practices, and efforts:
- Seek broad input from Federal R&D, intellectual property and technology transfer stakeholders:
- Identify Core technology transfer principles and practices that should be protected, and those which should be adapted or changed, and;
- Identify approaches to improve efficiency and reduce regulatory burdens for technology transfer to attract private sector investment in later-stage R&D, commercialization, and advanced manufacturing.

NIST will explore new partnering models and technology transfer mechanisms with the private sector, academia, other Federal agencies, state, and other public-sector entities to support technology development and maturation. NIST will seek new approaches to reduce/eliminate barriers and enable accelerated commercialization in areas of strategic national importance. They will identify better metrics and methods to evaluate ROI outcomes and impacts from Federal R&D investment. They will seek new approaches to motivate significantly increased technology transfer outcomes from the Federal sector, universities, and research organizations.

NIST will also be seeking a national "Request for Information. (RFI). The RFI will identify the following questions;

- What are the core Federal technology transfer principles and practices that should be protected, and those which should be adapted or changed?
- What are the issues that pose systemic challenges to the effective transfer of technology, knowledge, and capabilities resulting from Federal R&D?
- What is the proposed solution for each issue that poses a systemic challenge to the effective transfer of technology, knowledge, and capabilities resulting from Federal R&D?
- What are other ways to significantly improve the transfer of technology, knowledge, and capabilities resulting from Federal R&D to benefit U.S. innovation and the economy?

Four public meetings have been announced to gather additional stakeholder inputs:

➤ May 17, 2018, Silicon Valley USPTO Regional Office, San Jose, CA.

- ➤ May 21, 2018, Renaissance Denver Downtown City Center Hotel, Denver, CO.
- May 31, 2018, Hilton Chicago/Oak Lawn, Oak Lawn, IL.
- > June 14, 2018 (simultaneous webcast), NIST Campus, Gaithersburg, MD.

2018 Maryland Technology Transfer Summh toward enhanced commercialization success for Maryland's Federal and University Labs, the development of an asset map to highlight Maryland's key life science capabilities, and implementation of NIST's Return on Investment Initiative. The Council is also working with NIST to organize a series of events highlighting transformational innovations and technologies to include such areas as gene therapy, personalized medicine, and medical devices. The events are sponsored by the U.S. Department of Commerce, MD. Department of Commerce, the Federal Lab Consortium, and the Maryland Life Sciences Advisory Board. The events will seek to help to identify assets, resources, and market differentiators and promote them within and outside Maryland to increase connection and collaboration opportunities throughout the state and beyond.

LSAB Working Group Updates

Chairs of the LSAB Working Groups provided updates on their respective subcommittees. Following are the workgroups and key initiatives underway:

- Working Group 1: Leverage and Grow Current Asset Base and Accelerate Commercialization Bob Storey Chair
 - Maryland Test Bed
- Working Group 2: Increase Connectivity Among and Awareness of Maryland's BioHealth Assets and Resources - Doug Liu, Chair
 - Maryland Asset Map and Maryland Innovation Marketplace
 - Cell Manufacturing Hub in Frederick, Maryland
 - NIIMBL Initiative
 - BioFab USA
- Working Group 3: Increase Availability and Access to Capital for Early through Advanced Stage BioHealth Companies - Wendy Perrow - Chair
 - Maryland Asset Delivery Model
 - Fund C-level / CEO entrepreneurial talent and management attraction to Maryland
 - Establish a public-private competition to increase scalable risk capital
 - Seek Public / Private funding for new assets in MD

- Working Group 4: Grow Talent Pool of Experienced BioHealth Entrepreneurs, Business Leaders, Graduates and Scientists with Commercially Relevant Experience -Laurie Locasio - Chair
 - Create a program(s) to support C-Level entrepreneurs that are proficient in both Science & Technology, and Business
 - NIIMBL Workforce Development Proposal
 - Enhancing Entry-Level Pipelines from Teaching and Training Institutions to Industry
 - Maryland Asset Delivery Model
- Federal Task Force on Commercialization Rich Bendis Chair
 - Conflict of Interest White Paper
 - Maryland Technology Transfer Summit Policy Deliverable
 - Reauthorization of SBIR/STTR Funding

Next Steps

After the Bio 2018 International Convention in June, Bret Schreiber stated that the work of the subcommittees will begin again. Up to now, the goal of the subcommittees was to form membership teams. The teams then met to decide key objectives and priorities. In the summer and early fall of 2018, the goal of the subcommittees will be to determine actionable objectives and goals and most importantly, how best to accomplish the goals. The plan is to determine what is achievable versus not achievable and determine a path forward. The goal is to identify actionable items that tie back to the April 2017 final report.

Adjourn

Chair Perman and Deputy Secretary Ben Wu thanked everyone for their participation and adjourned the meeting.

Board Members in Attendance

Chair: Jay A. Perman, M.D., President – University of Maryland, Baltimore

Members: Richard (Rich) A. Bendis, President and CEO – BioHealth Innovation Inc.

Jarrod Borkat, Head, External Collaborations, Biotech Hubs and Government Contracting– MedImmune

William (Bill) Hearl, Ph.D., CEO – Immunomic Therapeutics

Theodore (Ted) J. Olsen, President and CEO – PathSensors, Inc.

Wendy Perrow, MBA, CEO – AsclepiX Therapeutics

Karen L. Proudford, Ph.D., President, William E. Proudford Sickle Cell Fund, Inc.; Associate Professor of Management and Director, Graves Honor Program - Morgan State University

Col. Andrea Stahl, Ph.D., Director, MRMC CBRN Defense Medical Research Coordinating Office and JPC-Radiation Health Effects – USAMRMC

Frank F. Weichold, M.D., Ph.D., Director, Critical Path and Regulatory Science Initiatives, Office of the Commissioner – U.S. FDA

Christy Wyskiel, MBA, Senior Advisor to the President and Head of Johns Hopkins Technology Ventures-- Johns Hopkins University

George Davis, President – TEDCO

Board Members Not in Attendance

Ex Officio: R. Michael Gill, Secretary – Maryland Department of Commerce

Vice Chair: Douglas Jon Liu, Senior Vice President, Head of Global Operations – Qiagen

Sciences Inc.

Members: Christopher P. Austin, M.D., Director, NCATS, U.S. National Institutes of Health

Sanjay K. Rai, Ph.D., Senior Vice President for Academic Affairs – Montgomery

College

David W. Smith, Ph.D., Vice President, Global Business Development, Emerging

Technologies – Lonza Walkersville, Inc.

Bob Storey, Principal, MVR Company

Speakers and Guests in Attendance

Benjamin H. Wu, Deputy Secretary/Chief Operating Officer, Maryland Department of Commerce

Steve Pennington, Managing Director, Business and Industry Sector Development, Maryland Department of Commerce

Bret Schreiber, Senior Director, BioHealth & Life Sciences, Maryland Department of Commerce

Brad E. Fackler, Director, BioHealth & Life Sciences, Maryland Department of Commerce

Jon Kucskar, University of Maryland, Baltimore

Sarah Woods, Bridges

Phillip Singerman, NIST